

VARIABILITY OF THE MAIN VALUE-ECONOMIC TRAITS OF F₂-F₄ COTTON HYBRIDS IN DIFFERENT SOIL-CLIMATE REGIONS OF UZBEKISTAN

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ABSTRACT

The article studies the variability of valuable economic traits in various hybrid combinations of cotton (F₂–F₄) in Tashkent, Fergana and Kashkadarya regions. During the research, such traits as the duration of the growing season, cotton weight in one boll, fiber yield and fiber length were analyzed, and the degree of their differentiation depending on soil and climatic conditions was determined. The regional characteristics of trait variability were assessed using statistical analysis methods and graphical indicators. According to the results, the highest yield and fiber yield were observed in some hybrid combinations, which indicated their promising potential in the selection process. The influence of genotype and environment on trait variability was determined, and the insignificance of genotype-environment interaction was noted. The results of the study serve as an important scientific basis for creating high-yielding and adaptable varieties in cotton breeding.

Keywords: Cotton, hybrid combinations, variability, growing season, yield, fiber yield, soil-climatic conditions, selection.

INTRODUCTION

In the world, there are a number of priority areas under different soil-climatic conditions, including the following: research is being conducted in the following areas: adaptation possibilities, introgressive hybrids and quantitative traits in lineages. degree of variability, comparative analysis under different soil-climatic conditions, valuable phenotypic characteristics of the disease. The influence of genetic and environmental factors on variability, secret, precious, of the signs of illness, determining the correlation between genetics and selection, traditional and non-traditional, valuable-honey based on traditional methods and modern MAS technologies, signs of distress, creating new highly adaptable varieties.

RESEARCH RESULTS

Tashkent, Farg, F₂-F₄ in the conditions of the mother and Kashkadarya regions. As a result of conducting selections in four hybrid combinations, of the traits that determine the phenotype of plants. The analysis of variability is presented. Precious, of signs of illness. A graph (box diagram) used in descriptive statistics was used to analyze the variability of the data and a diagram that represents the distribution of dimensional probabilities (dispersion) in a compact form. used.

You can place several such boxes side by side to compare one distribution with another. In your experiments, you can place three boxes in one table. 'year – this is one year with one sign from three different regions' The box on the left shows the distribution of the symbol in Tashkent region, 'The box in the middle – the sign is Different' distribution in the mother province, o' The box on the right shows the distribution of the symbol in the Kashkadarya region. 'The groups did not differ in size, so they can be compared.

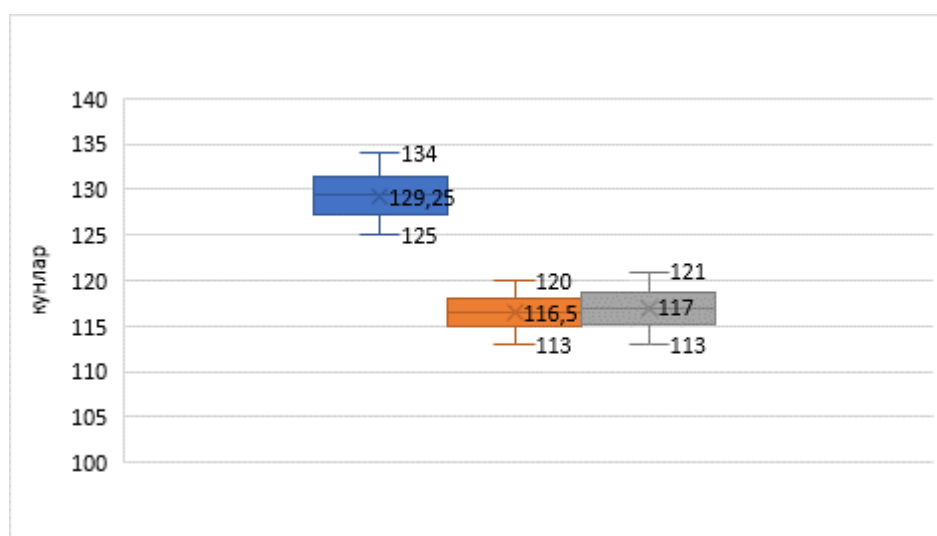


Figure 1. In $F_2[(F_8 L-247 \times S-484) \times F_{15} L-248]$ hybrids o'of the water cycle sign'variability.

See picture 1. 'It is clear that the duration of the growing season'variability in 2018 in the $F_2[(F_8 L-247 \times S-484) \times F_{15} L-248]$ hybrid in Tashkent region 125-134 days, 113-121 days' Ida Farg' in the mother and Kashkadarya regions' It kept changing. You can see from the picture that 'We can see that this symbol' average' Difference in indicators' were close to each other in the mother and Kashkadarya regions, or 116.5 and 117.0 days, respectively. This is 12 days shorter than the duration of the growing season of this hybrid in the Tashkent region. 'It happened. 'similar results, a little' with a change' However, the above combination was observed in experiments in 2019 and 2020.

The duration of the growing season is' variability $F_2 [(F_8 (\text{Bukhara } 6 \times \text{Lh}) \times \text{L-247}) \times (F_8 \text{ L-247} \times \text{S-6593})]$ hybrid combination in Tashkent region 122-129 days interval' located in 'lib, Farg' In the mother region, it was observed from 108 to 116 days, and in the Kashkadarya region, it was observed from 106 to 114 days. 'The range width of this combination in the Tashkent region is 2 days less than the previous combination. 'but the same thing happened in the other two regions' It is 7-8 days. 'kid' It should be noted that the vegetation period of the hybrid $[(F_8 (\text{Bukhara } 6 \times \text{Lh}) \times \text{L-247}) \times (F_8 \text{ L-247} \times \text{S-6593})]$ is between Kashkadarya and Farg' in the mother regions, it is shorter than in the Tashkent region' except for the third year of the trial, where 'average' Indicators Difference' high school in the mother province' It happened.

One piece of glass' The weight of cotton in a sack is' Analysis of variance on the' showed that the largest' high variability' lami, except for some, Farg' was observed in the motherland. The

largest indicators were observed in the hybrid combination F4 [(F15 L-248) x S-2016]. (from 3.1 g. to 6.8 g.)

The fiber yield in the hybrid combination F₂[(F₈ L-247 x S-484) x F15 L-248] is The results of the variability are presented. The largest o of the sign Variability Difference to third-generation hybrids tested in the mother province g It seems that the shown, is according to The percentage was 8.9%.

Second and last In the fourth generation, the sign The volatility is quite low (from 2% to 6%). This hybrid combination has a high fiber yield. average also stood out with its indicators. The fiber yield of the hybrid combination [(F₈ (Bukhara-6 x Lh) x L-247) x (F₈L-247 x S-6593)] is the largest in variability is manifested in the Kashkadarya region The percentages were: 6.2%, 5.1% and 7.1% in F₂, F₃ and F₄ respectively. In the remaining two regions, the The amplitude of the variability is much lower As a result of the selection, the fiber yield in this hybrid combination was increased. indicators were increased.

In conclusion, It can be noted that in all test years, the hybrid combination Look, is there a fiber output? highest in variability The disease is manifested in the Kashkadarya region. It was. Even in this Both right- and left-sided transgressions were observed.

Among all hybrid combinations, the fiber length is according to the largest amplitude of variability and high The combination F₂ [(F₈ (Bukhara 6 x Lh) x L-247) x (F₈ L-247 x S-6593)] stood out with indicators (Figure 3).

CONCLUSIONS

1. F₂-F₄ The yield of hybrids is highest score indicator (39.4 s/ha) In the hybrid combination F₄ [(F₈ L-247 x S-484) x F15 L- 248] and relatively high indicators F₄ [(F₈ (Bukhara 6 x Lh) x L-247) x (F₈ L-247 x S-6593)] and F₄ [(F15 L-248) x (F₈ L-243 x S-2552)] (37.0 s/ha and 36.1 s/ha, respectively) were recorded in hybrid combinations.
2. The yield of F₄ hybrid combinations is Two-factor analysis of variance confirmed the insignificance of genotype on the trait, and the environmental variability The genotype-environment ratio is 28.2%. between The secret is unimportant. lib, the uncalculated factors The secret was found to be more than 50%. The yield characteristics of the crops depend on soil and climatic conditions. change was observed.

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